CLAIMS

1. A process for the disposal of sulfur, as derivatives which are in the liquid state at room temperature, which comprises:

a) transforming elemental sulfur into sulfanes having the general formula H_2S_{n+1}, wherein n is a number from 1 to 7;

b) optionally mixing elemental sulfur in powder or molten form with the liquid sulfanes, up to such a concentration as to guarantee the pumpability of the mixture;

c) injecting the liquid sulfanes at room temperature into geological formations.

2. The process according to claim 1, wherein the sulfanes are produced by the direct reaction of sulfur in the molten state and hydrogen sulfide.

3. The process according to claim 2, wherein the elemental sulfur used in the synthesis of sulfanes comes directly from the Claus process.

4. The process according to claim 1, wherein the sulfur comes from a surface storage site.

5. The process according to claim 1, wherein the sulfanes are produced according to the following reaction schemes:

$$S + Cl_2 \rightarrow SCl_2$$

$$n\ SCl_2 + H_2S \rightarrow H_2S_{n+1} + x\ HCl$$

wherein n represents a number ranging from 1 to 7 and x de-

pends on the stoichiometry of the reaction.

6. The process according to claim 4, wherein the hydrochloric acid produced is oxidized with air in the presence of a catalyst to produce Cl_2 which is recycled to the preparation system of sulfanes.

7. The process according to any of the previous claims, wherein the difference in pressure necessary for pumping the liquid obtained from the liquefaction of sulfur is provided by the formula:

$$\Delta P = 2f \bullet \rho \bullet u_m^2 L / D_{eq}$$

wherein L is the length of piping used for injection into the geological structure, D_{eq} its equivalent diameter, u_m the average rate of the fluid pumped, ρ the density of the fluid pumped and f the friction factor which is a function of the roughness of the pipe and Reynolds number:

$$Re = D_{eq} \bullet u_m \bullet \rho/\mu$$

wherein μ is the kinematic viscosity of the fluid.

8. The process according to any of the previous claims, wherein the disposed sulfur comes from the purification treatment of hydrocarbons of a fossil nature (crude oil) or natural gas.

9. The process according to any of the previous claims, wherein the geological structures suitable for receiving the molten sulfur are those forming the reservoir from which the crude oil or natural gas containing sulfur are

removed.

10. The process according to any of the previous claims, wherein elemental sulfur, in the molten state or as a finely ground powder with a particle size ranging from 1 to 100 µm, is added to the sulfanes, up to a concentration corresponding to the solubility limit.